

ABSTRACT

A coating system and method for reducing the tendency for hydrocarbon fluids, such as fuels and oils, to form carbonaceous deposits that adhere to a wall of a containment article. Of particular concern are carbonaceous deposits that form at temperatures below about 650°F (about 345°C). The coating system combines an outermost layer of platinum with a ceramic barrier layer. The coating system significantly reduces the formation of carbonaceous deposits and the adhesion of such deposits. To further reduce wall and hydrocarbon fluid temperatures and formation of carbonaceous deposits, the coating system is preferably applied to the surface of the wall wetted by the fluid, as well as the opposite surface of the wall exposed to a surrounding environment. The outermost layers serve as radiation shields to reduce heat transfer from the surrounding environment to the wall, and from the wall to the hydrocarbon fluid.